

In Figure 9, Okada et al. discloses a system that includes an endoscope and a detachable unit, each including a monocular camera. Each of these cameras acquires a monocular image of an object. When the detachable unit is not separated from the endoscope, these two images can be regarded as two parts of a stereoscopic image and be presented together using a stereoscopic display. However, neither of these cameras, and more particularly the camera of the detachable unit, can produce on its own, a complete pair of stereoscopic images.

Okada et al. does not disclose, nor does it suggest a capsule, which includes an assembly, detecting stereoscopic images independently (i.e., one capable of acquiring a complete pair of stereoscopic images).

Furthermore, the system according to Okada et al. can detect stereoscopic images only when the detachable imaging unit is not separated (col. 8, lines 41-49), the same configuration as a conventional stereoscopic endoscope. Okada et al. does not disclose, nor does the reference suggest, a system for producing stereoscopic images, which employs a separable capsule for acquiring stereoscopic images, when separated from the delivery device, as recited in claim 1.

Accordingly, Applicant asserts that that claim 1 and the claims depending from claims 1 should not be regarded as being anticipated by Okada.

Moreover, with regard to claims 7-12, the Examiner stated in the Office Action that Okada et al. discloses a light dispersing unit (col. 5, lines 1-7), and therefore it would have been obvious to utilize the light dispersing unit that surrounds the sensor assembly completely or partially for effective lighting of an object. However, the reference cited by the Examiner (col. 5, lines 1-7) does not disclose a light dispersing unit. It is unclear which structure is the light dispersing unit and it might be assumed that the Examiner referred to the irradiating windows 30 and 31 as a light dispersing unit (or units). However, the irradiating windows of Okada do not disperse the light, but merely transmit the light from the light guide there through. These windows are not light dispersing units.

The claimed system provides an annular light dispersing unit that conveys and disperses the light from the light source, and that surrounds the light sensor, thereby illuminating an object. Okada et al. does not disclose, nor does the reference suggest using such a light dispersing unit.

Accordingly, Applicant asserts that claims 7-12 should not be regarded as being anticipated by Okada et al.

Regarding claims 13-16, the Examiner stated that Okada et al. discloses a collecting department (col. 5, 45-60) and a dispensing department (col. 5, 61-67). However, the cited reference does not disclose a collecting department or a dispensing department.

According to claim 13 of the application, the capsule includes at least one dispensing compartment. For example, each of the dispensing compartments of Figure 30 of the application can be opened and closed in order to release a medical substance into a patient's digestive system. According to claim 15, each of the dispensing compartments includes a door mechanism, connected to the processor.

In the reference cited by the Examiner (col. 5, 61-67), Okada et al. describes moving and disposing the separated imaging unit to a predetermined position. More specifically, the endoscope can be extracted, and another endoscope inserted while the imaging unit is disposed at the predetermined position. Okada et al. does not describe, nor does it suggest a capsule including a dispensing compartment. Furthermore, Okada et al. does not disclose nor suggest including a door mechanism in a dispensing compartment. Applicant asserts that claims 13 and 15 patentability distinguish over the prior art.

According to claim 14 of the application, the capsule includes at least one collecting compartment. According to claim 16, each of the collecting compartments includes a door mechanism, connected to the processor.

Okada et al. (col. 5, 45-60) describes collecting the separated imaging unit. More specifically, the imaging unit can be attracted into the accommodating unit by an electromagnet at the distal end portion of the endoscope. Alternatively, a basket-type clamp, a three-claw clamp, and the like can be used to collect the imaging unit. In addition, the discharging function of an organism can be used to collect the imaging unit.

The Examiner may have been referring to the accommodating unit 11 as a collecting department. However, the accommodating unit 11 of Okada et al. cannot be considered as a collecting compartment. The collecting compartment according to the application is a closed space including an opening, which can be opened and closed in order to collect substances. In

contrast, Okada's accommodating pocket is not a closed space, and is not operable to collect substances.

Furthermore, Okada et al. does not disclose, nor does the reference suggest, including a door mechanism in a collecting compartment. Applicant asserts that claims 14 and 16 distinguish over the prior art and the rejection over Okada et al. is traversed.

Claim 26 was rejected as being unpatentable over Okada et al. in view of Adelson. The Examiner wrote that it would have been obvious to a person skilled in the relevant art employing a system for producing stereoscopic images of an object, as taught by Okada et al., to incorporate the lenticular lens array and the light sensor array as taught by Adelson in order to direct light from different directions to different light sensors within the selected group of the light sensors for achieving a stereoscopic image.

The system according to claim 26 includes a lenticular lens layer, including a plurality of lenticular elements, and a light sensor array. Each of the lenticular elements is located in front of a selected group of light sensors, thereby directing light from different directions to different light sensors within the selected group of light sensors.

Adelson discloses an optical ranging apparatus, including a lenticular array and a charged coupled device (CCD) array, which includes a plurality of macropixels. Each macropixel includes a plurality of subpixels. Each subpixel within a macropixel corresponds to a view of an object from a different angle.

On the one hand, Okada et al., while disclosing a stereoscopic imaging apparatus that includes a detachable monocular imaging unit, does not disclose, nor does the reference suggest using a lenticular lens array in the stereoscopic imaging apparatus. Adelson, on the other hand, while disclosing an optical ranging apparatus that employs a lenticular lens array and a charged coupled device (CCD) array, does not disclose, nor does the reference suggest, a system for producing stereoscopic images, which includes a capsule.

In order to produce stereoscopic images, Okada et al. uses two monocular cameras, one which is disposed at the distal end of the endoscope and another in a detachable unit, which has to be attached to the endoscope. Each of these cameras receives a separate image and includes a separate optical assembly and CCD. Moreover, the device of Okada et al. is capable of providing

stereoscopic images only in the form of a stereoscopic endoscope wherein the detachable unit is secured to the distal end of the endoscope. Therefore, it would not be considered obvious to employ in the Okada et al. system a lenticular lens array, which separates between a plurality of images. Accordingly, Applicant asserts that claim 26 is not anticipated by Okada et al. in view of Adelson.

Claims 27-39 were rejected as being unpatentable over Okada et al. in view of Watannabe. Applicant asserts that these claims all depend either directly or indirectly on claim 26. Applicant asserts that, as discussed above, claim 26 is allowable. Applicant therefore asserts that claims 27-39 are also allowable.

Claims 40-50 and 52 were rejected as being unpatentable over Okada et al. in view of Street. The Examiner wrote that it would have been obvious to a person of ordinary skill in the relevant art employing a system for producing stereoscopic images of an object as taught by Okada et al. to incorporate Street's two apertures including a light valve and a light sensor for generating a stereoscopic video signal.

Although Okada et al. discloses a stereoscopic imaging apparatus that includes a detachable unit, it does not disclose, nor does the reference suggest, using at least two apertures, including light valves that are operative to open at a different timing. Street discloses only a system that includes two apertures, but does not disclose, nor does the reference suggest a system for producing stereoscopic images that includes a capsule.

Furthermore, the system according to Okada et al. employs two light sensor arrays (CCDs) and two separate lens assemblies in order to produce stereoscopic images. The system according to Street employs a single light sensor array and a single lens assembly in order to produce stereoscopic images. Therefore, it would not be obvious to combine the systems of Okada et al. and Street. Moreover, even if the references were combined, the combination would not anticipate the claimed invention.

Accordingly, Applicant asserts that claims 40-50 and 52 would not be regarded as being anticipated by Okada et al. in view of Street.

Claims 20-21, 51 and 53-70 were objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of

the base claim and any intervening claims. Applicant thanks the Examiner for the indication of allowable subject matter. As discussed above, Applicant asserts that the claims from which these claims depend are allowable and Applicant does not deem it necessary to rewrite these claims.

In view of the foregoing, entry and approval of these amendments and a speedy and favorable action are respectfully solicited. If the Examiner feels that a telephone interview may be helpful in this matter, please contact Applicant's representative at 612.336.4728.

Respectfully submitted,

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